

In the Specification

Please amend the specification of this application as follows:

Rewrite the paragraph at page 8, lines 1 to 2 as follows:

B1 --Fig. 12 is a block diagram of a \oplus S execution unit group of the DSP core of Fig. 2;--

Rewrite the paragraph at page 21, line 24 to page 22, line 17 as follows:

B2 --Fig 12 is a top level block diagram of S unit group 82, which is optimized to handle shifting, rotating, and Boolean operations, although hardware is available for a limited set of add and subtract operations. S unit group 82 is unique in that most of the hardware can be directly controlled by the programmer. S unit group 82 has two more read ports than the A and C unit groups, thus permitting instructions to operate on up to four source registers, selected through input muxes 144, 146, 161, and 163. Similar to the A and C unit groups, the primary execution functionality is performed in the Execute cycle of the design. S unit group 82 has two major functional units: 32-bit S adder unit 156, and S rotate/Boolean unit 165. S rotate/Boolean unit 165 includes S rotator unit 158, S mask generator unit 160, S bit replicate unit 167, S ~~unpack/sign~~ unpack/sign extend unit 169, and S logical unit 162. The outputs from S rotator unit 158, S mask generator unit 160, S bit replicate unit 167, and S ~~unpack/sign~~ unpack/sign extend unit 169 are forwarded to S logical unit 162. The various functional units that make up S rotate/Boolean unit 165 can be utilized in combination to make S unit group 82 capable of handling very complex Boolean operations. Finally, result mux 148 selects an output from one of the two major functional units, S adder unit

B2 156 and S rotate/Boolean unit 165, for forwarding to register file
76.--
